



# 6 | *Metropolis* 1950–2004

## INTRODUCTION

The Corps of Engineers, through its key position on the District of Columbia Board of Commissioners until 1971, confronted the same issues faced by other cities nationwide in the middle of the twentieth century: the emergence of “inner cities,” racial tensions, uncontrolled suburban growth, increased traffic congestion, and pollution of both air and water. The commissioners, however, also worked under the close scrutiny of a population that fervently desired a new form of government that allowed for full enfranchisement of Washington’s citizens. Unlike the governments of other cities, that of the district was constrained by federal authority. Congress retained line-by-line control over the city budget—a budget whose federal contribution continued to dwindle.

In the decade ending in 1960 the percentage of Washington metropolitan area inhabitants living in the district dwindled from 53 percent to 37 percent, turning Washington into an inner city surrounded by burgeoning suburbs. As middle-class white households moved to the suburbs, the African-American population remained in the city, augmented by migrations from the rural south. By the late 1960s the percentage of African-American

*OPPOSITE PAGE: SOUTHWEST  
NEIGHBORHOODS, 1939*

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students in the city's public school system exceeded 90 percent. By the 1980s Washington was again vital, thriving, and diverse with many widespread revitalized centers because of the collaboration of federal and district agencies and the commitment of residents.<sup>1</sup>

One day in 1960 Engineer Commissioner Brigadier General Frederick J. Clarke and his wife were speaking with Elizabeth Kutz, widow of Charles W. Kutz who served three terms as the Engineer Commissioner, his last term ending in 1945. She asked Clarke, "Tell me, dear, are the Eisenhowers treating you properly?" Clarke replied that he supposed so. He and his wife had been invited to the White House "for one of those big mass affairs," and had shaken hands with the president. Elizabeth Kutz remembered a different Washington. She said, "You know, when Papa [General Kutz] and I were there, we went to the White House at least every two weeks for lunch with the President. We were the city fathers. And we were always being asked to the White House for things, to represent the city." By the time of Clarke's tenure as commissioner, he and his fellow commissioners never had an audience with the president on the city's problems.<sup>2</sup>

President John F. Kennedy did, however, appoint a Special Assistant for District Affairs who served as an intermediary between the White House and the District Building.<sup>3</sup>

Although numerous congressionally mandated planning and executive agencies or commissions also played roles in running the city, D.C. commissioners continued to serve on these bodies as their predecessors had done for the better coordination of all aspects of the city's affairs. For example, Clarke served on, and sometimes chaired, at least eighteen such agencies during his term as Engineer Commissioner. They included the National Capital Planning Commission, the Council of Governments, the Public Utilities Commission, and commissions on zoning, mass transit, regional sanitation, and traffic safety.<sup>4</sup>

When he assumed his post in 1967, Engineer Commissioner Brigadier General Robert E. Mathe knew he would be the last engineer officer to have a direct hand in the District of Columbia government.<sup>5</sup> Public sentiment in the city had long favored a new form of government. In August 1967 President Johnson's Reorganization Order No. 3 took effect, replacing the three-person Board of Commissioners with a presidentially-appointed chief executive, deputy, and a nine-person appointed council. Mathe and one of the civilian commissioners agreed to stay in their posts long enough to assist in the transition to a new government. The terms of the reorganization provided for the Corps to assign up to three engineer officers to assist the new city government, but General Clarke—then Deputy Chief of Engineers—and the new mayor's staff agreed not to assign any officers, opting instead for a clean break with the past.<sup>6</sup>

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*Washington's city planners blamed alley dwellings and "slums" for crime and disease and launched large-scale efforts using the District of Columbia's Redevelopment Land Agency to turn huge tracts of the district from "blighted areas" into "healthy communities."*

*Library of Congress, Prints and Photographs Division, LC-USF34-T01-246-D*

## URBAN REDEVELOPMENT

The Engineer Commissioners, as they always had, dealt primarily with public works, although they voted on all aspects of city government. They received no policy direction from their superiors in the Corps, and they freely exercised their own judgment on all issues—save one—that arose in the governance of the city. The Chief of Engineers did instruct the engineer officers serving in the city government to remain silent about proposals for government reorganization. In the 1960s a government official described city government this way: “It’s divided into sixths—four-sixths for the engineer commissioner and one-sixth for each of the others. He makes the big decisions—on urban renewal, streets, freeways, and so on. He can do anything he wants.”<sup>7</sup>

Urban renewal was one of the most pressing issues facing Washington at mid-century. Brigadier General U. S. Grant III, serving as chairman of the National Capital Park and Planning Commission, wrote in 1952, “It is generally recognized that the blighted and slum areas [of Washington], now so expensive to the city as the breeders of disease and crime, can be redeemed only by complete and well planned redevelopment into balanced and healthy communities.” Congress established the District of Columbia Redevelopment Land Agency (RLA) in 1945 to facilitate the “redevelopment of slums and blighted areas in the city of Washington.” The RLA was run by a five-member board, with two presidentially-appointed members and three chosen by the district

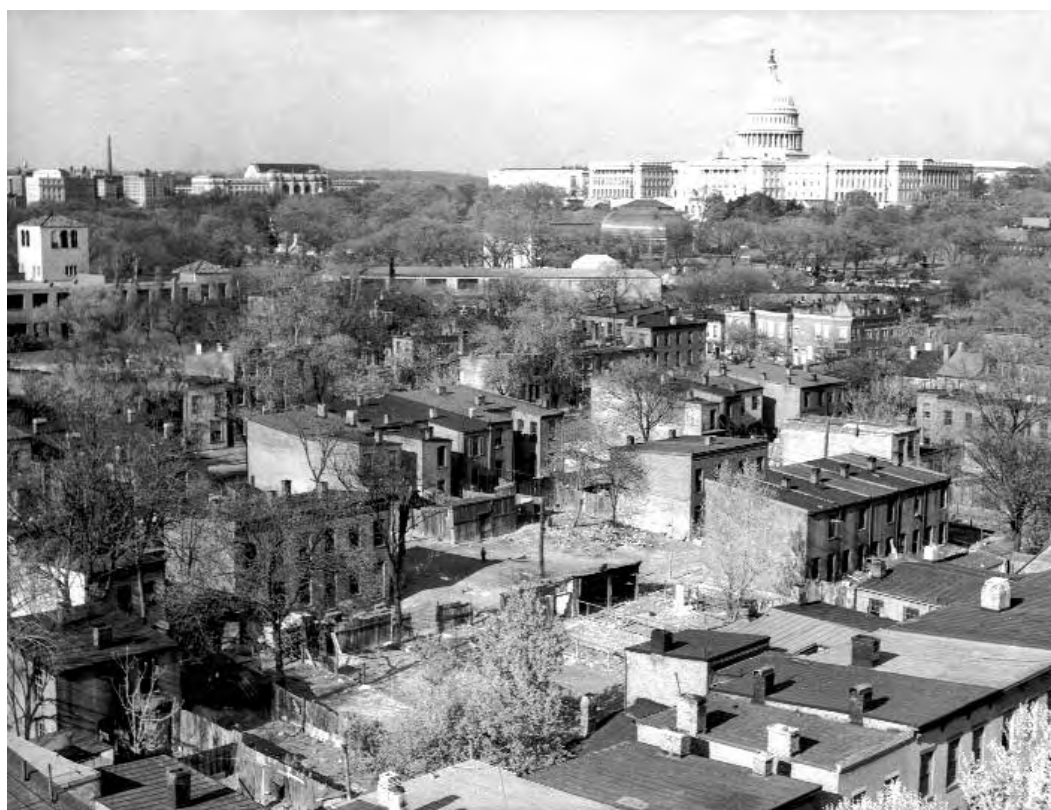
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*“It’s divided into sixths—four-sixths for the engineer commissioner and one-sixth for each of the others. He makes the big decisions.”*

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*As late as 1939 Southwest retained its small town atmosphere with rowhouses and a few single family homes widely scattered along tree-lined streets. Many poor residents were unable to modernize their homes' nineteenth-century sanitary systems. The decaying buildings of Southwest were the first target of the Redevelopment Land Agency's plan to revitalize the city through redevelopment.*

*Library of Congress, Prints and Photographs Division,  
LC-USF34-15931-D*



commissioners. After receiving funding to begin operations in 1950 from the Housing and Home Finance Agency, the RLA worked with the Board of Commissioners and the National Capital Park and Planning Commission (on which the Engineer Commissioner also sat) to plan the redevelopment of three areas in the city.<sup>8</sup>

Large areas of Washington's Southwest quadrant received immediate attention because it was perceived that while the residential and commercial blocks of older buildings were decaying, they housed a close-knit community. A study commissioned by the RLA and the NCPPC found buildings in Southwest in poor repair, frequently lacking central heating and indoor plumbing. Many residents lived in tiny alley dwellings, which planners regarded as particularly unhealthy physically as well as socially. In reality, the majority of Southwest's residents were poor or working class African Americans and the crime rate was high. The housing stock was similar to that of Capitol Hill; its historic buildings began to be renovated little more than a decade after most of Southwest was leveled.

Two plans for the redevelopment of Southwest were considered. The first, proposed by city planner Elbert Peets, called for rehabilitation of buildings and some new construction, with little long-term displacement of current residents and businesses. The second, by two of Washington's leading modernist architects Chloethiel Woodard Smith and Louis Justement, called for demolishing the old neighborhood completely in favor of creating





a modernist Utopia following the most avant-garde socially responsible architectural ideas and ideals. Rebuilding in a variety of architectural typologies from high-rise apartment buildings to row houses, all in extensive landscape settings would, they argued, provide better conditions for some of the former residents, but primarily would attract higher-income professionals back from the suburbs. In the end, the RLA, with the approval of the District of Columbia Commissioners and the newly-reorganized National Capital Planning Commission, favored a plan based on the Smith-Justement model. Decried by many for decades as socially irresponsible because the neighborhood's cohesion was broken and historically important buildings were lost, Southwest's extensive Modernist landscape was again appreciated at the beginning of the twenty-first century as its open spaces were threatened by new buildings.<sup>9</sup>

Between 1954 and 1958 the RLA acquired and demolished most of the buildings in Southwest—churches, homes, and businesses—and dispersed more than twenty thousand residents to other parts of the city. The RLA then leased the land to private

*The Redevelopment Land Agency favored the Smith-Justement proposal to completely demolish Southwest and start over. By October 1959 most of Southwest's buildings had been razed, making room for a new freeway (shown under construction) and the first of the high-rise and garden apartment complexes.*

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developers who, with federal subsidies, rebuilt the area over the next decade with high-rise apartment buildings, townhouses, office buildings, churches, and a shopping center. The federal government used RLA land adjacent to the Mall for office buildings of its own.<sup>10</sup> The Southwest redevelopment had considerable racial overtones. The old Southwest was a majority African-American neighborhood, and, forced to move, its relocated residents frequently encountered difficulty finding non-discriminatory and affordable housing elsewhere in the city, or they moved into public housing. When new housing was ready in the new Southwest, its high rents effectively excluded many of the former, low-income inhabitants. Disturbed by the injustice and extensive physical and community destruction that came with the Southwest redevelopment, citizens in other parts of the city organized. In such neighborhoods as Shaw and Adams-Morgan, they were effective in influencing further RLA planning to avoid the clean-slate approach adopted in Southwest. In retrospect, relocation subsidies provided some former Southwest residents with the means to educate themselves and their children, thus breaking the poverty cycle.<sup>11</sup>

*The elegant 1965 Tiber Island complex, designed by the Washington architectural firm of Keyes, Lethbridge & Condon, exemplified Modernism's urban renewal ideal of multiple middle-class housing types arranged amidst extensive public parks. It consisted of low-rise townhouses and four high-rise apartment buildings surrounding a central plaza.*  
Office of History, Corps of Engineers,  
Layton Personal Papers



## HIGHWAY PLANNING

Intimately related to urban redevelopment was highway planning. In 1946 Engineer Commissioner Brigadier General Gordon R. Young released for public comment a six-year plan for the Capital. In it he warned of the dangers that population dispersion posed for the central city, promoting the idea of beltline and lateral freeways to keep the spreading suburbs in close contact with the traditional downtown. In the 1950 study *Washington Present and Future*, the National Capital Park and Planning Commission posited that traffic congestion could be moderated by locating places of employment away from the central city, but only if freeways existed to serve as a circulatory system for the whole metropolis. The commission proposed connecting the district and its suburbs with radial freeways and easing movement around and into the city with a system of three circumferential freeways, two in the district and one around it.<sup>12</sup>

The design for the Inner Loop Freeway was announced in 1955. Almost eighteen miles in length with an estimated cost of \$273 million, its construction threatened sixty-five thousand buildings, a quarter of the city's total. Plans for the Southeast-Southwest Freeway, a portion of the full Inner Loop, proceeded quickly, as the Southwest's redevelopment had already freed up most of the required land. Southwest had long been physically isolated from the rest of the city—in the nineteenth century by the Washington City Canal and in the twentieth by the Pennsylvania Railroad's tracks. When the freeway set up a new barrier, the RLA welcomed it as a natural buffer between the federal offices to its north and the new residential communities on its south. But this attitude was rejected in neighborhoods that felt threatened. During the early 1960s citizens in the Southeast sector objected to demolition of houses in impoverished areas. The racial situation worked further to discredit the freeway program. "White men's roads through black men's homes" became a rallying cry for freeway opponents.<sup>13</sup>

Protests from one citizens' group after another forced the commissioners to abandon plans for any freeways to the north. The Southeast freeway, which was intended to loop past the new stadium at the east end of Capitol Hill and continue around the center part of the city, remained truncated in midair. The inner loop controversy also marked one of the rare occasions when the two civilian commissioners voted counter to the Engineer Commissioner—General Clarke favored completing the freeway system—on a public works issue.<sup>14</sup>



*Activists in near Northwest and Northeast in 1968 protested the destruction of their neighborhoods that would be required to extend the Inner Loop Freeway (I-95) through the heart of the city. Protestors and neighborhood opposition played a large part in the eventual abandonment of the plans for the Inner Loop Freeway.*

*National Capital Planning Commission*

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***"White men's roads through black men's homes..."***

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*The construction of Rochambeau Bridge, the first of three mid-twentieth century 14th Street bridges, was well under way by July 1949. The Highway Bridge, heir to Long Bridge, at left, would give way in 1962 and 1971 to two new lower-level spans connecting Southwest D.C. with Arlington, Virginia.*

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*“On the contrary, he proved to be the right man at the right time for a monumental undertaking....There have been no scandals in the construction of the nation’s largest public works project.”*

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Although the last Engineer Commissioners generally favored highway construction, they also embraced the new emphasis on improved public transportation including a subway system. In 1966 the commissioners became members of the new congressionally established Washington Metropolitan Area Transit Authority (Metro) that hired a retired engineer officer, Major General Jackson Graham, to be the first general manager of Metro. Graham brought in other retired engineers, including Brigadier General Roy T. Dodge, to help run the massive project. Hired in 1967, Graham saw construction begin in 1969 and he resigned in 1976 just a few months before the first Metro trains began regular service. In spite of the problems and criticism he encountered, according to *The Washington Post*, Graham “owes no apology for his service to this community. On the contrary, he proved to



By August 1965 the Roosevelt Bridge spanned the Potomac River and reached Theodore Roosevelt Island but was not yet connected to the Virginia shore. The Roosevelt Memorial Association bought Analostan Island in 1931 and gave it to the government the following year as a nature sanctuary when it was renamed.

Washingtoniana Division,  
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be the right man at the right time for a monumental undertaking.” Two years later Dodge announced his retirement as the design and construction chief of Metro. *The Washington Post* commented that he had “forged a remarkable reputation for integrity.... There have been no scandals in the construction of the nation’s largest public works project.”<sup>15</sup>

Bridge construction went more smoothly in postwar Washington than highway construction, although bridge designs came under the jurisdiction of the Commission of Fine Arts and National Capital Planning Commission. Congress approved two new four-lane bridges from Southwest Washington across East Potomac Park with the Virginia landfall north of National Airport to replace the Highway Bridge in 1947. The first, Rochambeau Bridge (now Arland D. Williams, Jr., Bridge), opened in 1950, the work supervised by Engineer Commissioner General Young. The second, George Mason Bridge, opened in 1962. A third bridge was authorized in 1966 while there was still an engineer commissioner but not completed until 1971; collectively the three bridges that divide East Potomac Park comprise the present Fourteenth Street Bridge. The Theodore Roosevelt Bridge, also partially supported by a landmass in the Potomac River—Theodore Roosevelt Island—was built by the District of Columbia Highway Department. Both the Commission of Fine Arts and the National Capital Planning Commission—as well as numerous citizens’ groups—opposed the Roosevelt bridge both because of its industrial appearance and because it intruded on the nature sanctuary and memorial dedicated to the conservation-minded president.<sup>16</sup>

Senator Robert C. Byrd (left) of West Virginia and Brig. Gen. Frederick J. Clarke at the construction site of the Theodore Roosevelt Bridge, 1961. Clarke, who went on to become the Chief of Engineers (1969–73), was the Engineer Commissioner from 1960 to 1963, with only two successors.

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*The 850-bed residence hall under construction at the U.S. Soldiers' Home, 1952, was named for Winfield Scott, who was instrumental in the establishment of the Soldiers' Home in 1851.*

*Office of History, Corps of Engineers*

#### MAINTAINING AND EXPANDING GOVERNMENT FACILITIES

The U.S. Soldiers' Home (renamed the Soldiers' and Airmen's home in 1972) required renovation and expansion in the late 1940s and early 1950s to meet the coming influx of veterans from both world wars. In 1947 Chief of Engineers Lieutenant General Raymond A. Wheeler, president of the Soldiers' Home Board of Commissioners, oversaw the preparation of a master plan by Washington architects Porter & Lockie for expansion from 1,500 occupants to 3,500, and began work on air conditioning and fire protection of existing buildings. The plan featured a new 850-bed residence hall and a 200-bed hospital, plus needed modernization of the heating and electrical systems.<sup>17</sup>

The hospital plan had been expanded to 500 beds by 1949, and the design of the modern limestone buildings had been approved by the Commission of Fine Arts. A waiting list of 400 veterans precluded the option of tearing down the oldest buildings from the 1870s, generally viewed as "firetraps."<sup>18</sup> In 1950 the Soldiers' Home ceded 148 of its 500 acres to the General Services Administration in exchange for funding for an approximately \$14 million expansion program. The home retained the historic Anderson Cottage (1843), where Abraham Lincoln wrote the Emancipation Proclamation while the cottage was still the country home of Washington banker George W. Riggs. The new residence

hall, completed in 1953, was named for General Winfield Scott, who played the leading role in establishing the home in the mid-nineteenth century. In response to a declining population, between 1988 and 1990, the Corps renovated the Scott Building's interiors, which included creating private rooms and revamping the cafeteria. Between 1990 and 1992 Baltimore District Project Engineer David Hand oversaw the largest building to be erected at the home in four decades, the \$29 million LaGarde Building, a 200-bed home health care facility that incorporated a “town center,” an internal group of services as diverse as barber and beauty shops and a post office. Designed by the Detroit architects Smith, Hinchman and Grylls Associates, the LaGarde building brought modern concepts of assisted health care to the home's diverse group of retired service personnel.<sup>19</sup>

The Cold War years brought the Washington Engineer District a project designed to withstand nuclear attack, the Armed Forces Institute of Pathology at Walter Reed Army Medical Center. Completed in 1954, the \$6 million windowless building of reinforced concrete rose eight stories, including three underground. The blast-resistant twelve- to sixteen-inch walls, of which the thickest faced downtown Washington, provided protection to an emergency power plant, laboratories, records and specimens, and medical education facilities and was the first deliberately planned atomic-bomb-resistant building in Washington.<sup>20</sup>

The Corps oversaw restoration of Arlington Cemetery's amphitheater in 1957 to accommodate increasingly larger numbers of visitors who came to view the ceremonies held at the Tomb of the Unknown Soldier. Two lateral cracks in the forty-eight-ton marble tomb progressed to the stage that repairs were carried out between 1987 and 1989 by Oehrlein and Associates, a difficult job that combined historic preservation and artistic conservation because of the tomb's delicate sculpture and famous inscription: “Here rests in honored glory an American Soldier known only to God.” In 1996 large parts of the amphitheater's deteriorating marble were replaced or cleaned, a new sound system was installed, and the lighting was improved.

The creation of the John F. Kennedy gravesite on the central axis between Arlington House and Memorial Bridge led Corps planners by the mid 1960s to consider new projects relating to education, crowd control, and expanded facilities. The cemetery's 1977 master plan,

*The Corps of Engineers' involvement with Arlington National Cemetery also included renovation work on the Tomb of the Unknown Soldier, 1974–75.*

*Office of History, Corps of Engineers*



*The new visitors' center at Arlington National Cemetery, built under the supervision of the Baltimore Engineer District and dedicated in 1988, won the Department of Defense's Excellence in Design Award. Office of History, Corps of Engineers*



developed in conjunction with the NCPPC, focused on public and private transportation to and within the cemetery for thousands of daily visitors. Their plan included a new permanent visitors' center, featuring an exhibit on the history of the site. Designed by David Volkert and Associates, the new center was dedicated in December 1988. Expanded parking, including an underground structure and tour bus facilities, was built adjacent to the visitors' center. Annexation of adjacent Army-owned land for 9,500 gravesites and columbaria for interment of cremated remains ensured adequate burial sites for America's future heroes. In a departure from its usual engineering studies, the Baltimore District conducted a sociological study on the columbarium concept and determined that the public would accept it. In March 1997 ground was broken for the sixth of nine columbaria to contain sixty thousand niches.<sup>21</sup>

During the 1990s the Corps was involved in renovation projects for two complex Washington buildings whose diverse functions were intended to continue while construction was underway. In 1992 the General Accounting Office (GAO) asked the Corps to evaluate the possibility of modernizing its massive 1951 headquarters building. The Corps began its planning based on the GAO's stacking plan that identified the movement and interactions of its employees laterally and vertically between seven floors. In 2000 Corps of Engineers' headquarters moved from the leased space at the Pulaski Building on the corner of Massachusetts Avenue and North Capitol Streets, NW, to part of the newly-renovated Government Accounting Office building.



ON NOVEMBER 23, 1963, WHILE THE NATION WAS STILL IN SHOCK OVER THE ASSASSINATION OF PRESIDENT JOHN F. KENNEDY THE DAY BEFORE, THE CORPS OF ENGINEERS WAS SURVEYING ARLINGTON NATIONAL CEMETERY IN ORDER TO RECOMMEND A LOCATION FOR A GRAVESITE. THE NEXT DAY, THEN CHIEF OF ENGINEERS LT. GEN. WALTER K. WILSON, JR.,

LEARNED OF MRS. KENNEDY'S DESIRE FOR AN ETERNAL FLAME AT THE BURIAL SITE AND WAS TASKED TO PROVIDE IT. HE ASSIGNED THE MISSION TO MAJ. GEN. WILLIAM F. CASSIDY, COMMANDANT OF THE ENGINEER SCHOOL. OVER THE NEXT THIRTY HOURS THE ENGINEERS WORKED TO PRODUCE A FUNCTIONING FLAME IN TIME FOR THE BURIAL THE NEXT MORNING, NOVEMBER 25. STARTING FROM SCRATCH, THEY BUILT THE DEVICE OUT OF WELDED METAL STRIPS, A "LUAU LAMP," AND SEVERAL SMALL PROPANE TANKS. ONCE THE FLAME WAS IN PLACE, WILSON TESTED IT ONLY ONCE. WHEN MRS. KENNEDY LIT THE FLAME DURING THE BURIAL CEREMONY, IT IGNITED, AND REMAINED LIT. THE CORPS' MAKESHIFT CREATION REMAINED IN PLACE FOR MORE THAN A YEAR. IN 1967 PRESIDENT KENNEDY WAS QUIETLY REINTERRED IN THE CURRENT PERMANENT GRAVESITE.





*In addition to the 1997 renovation work performed on the interior of the Kennedy Center, the Corps of Engineers also rehabilitated its terraces.*  
Office of History, Corps of Engineers

In the mid-1990s Corps engineers began working on the team to renovate the John F. Kennedy Center for the Performing Arts. Although the Kennedy Center was only twenty-five years old, its more than 2,800 annual performances and related activities led to a proposed fifteen-year comprehensive plan to improve its safety, security, and accessibility; renovate its four theaters and halls; and extend and landscape its site. The Corps' major work was to renovate the Concert Hall, which required rebuilding the stage area, updating its acoustical environment, and refurbishing its interiors.<sup>22</sup>

On September 27, 1991, President George H.W. Bush dedicated Marshall Hall, the new \$27 million academic operations center at the National Defense University, at Fort Lesley J. McNair, the nation's oldest operating Army post. Designed by the Minneapolis architects and engineers Ellerbe-Becket, the award-winning three-story concrete and brick structure consciously paid homage to the Army War College's historic Colonial Revival and Beaux Arts buildings initiated by President Theodore Roosevelt and overseen by his Secretary of War, Elihu Root. The Corps' construction oversight team consisting of project engineer Robert Wilson, Major Dale Schweinsberg, and Joe Reynolds were particularly proud of their joint achievement, which Reynolds referred to as "the Taj Mahal of military construction." The operation center's avant-garde design "is one of the most

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*"[T]he Taj Mahal of military construction..."*

*"[O]ne of the most striking pieces of architecture I've ever seen on any military post."*

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*Marshall Hall, on the grounds of Fort Lesley J. McNair in Southwest Washington, was designed by the architect-engineer firm of Ellerbe-Becket; its construction was supervised by the Baltimore Engineer District. President George H. W. Bush attended its dedication ceremony in September 1991. Marshall Hall won the Military Programs Merit Award in the 1992 Chief of Engineers Design and Environmental Awards Program for its success in “resolv[ing] the demands of a large and complex function on an historic installation, while reinforcing the original 1903 master plan and respecting the character of the existing architecture.”*

*Office of History, Corps of Engineers*

striking pieces of architecture I’ve ever seen on any military post,” commented former Corps officer John Bandera. Renovations of existing academic buildings in the National Defense University complex were also undertaken during the 1990s, most notably Theodore Roosevelt Hall, a National Historic Landmark designed by McKim, Mead & White and built between 1903 and 1907. The Corps’ oversight of its \$7 million renovation by Ellerbe-Becket was praised by the District of Columbia Preservation Office as a model of cooperation between review agencies, the Military District of Washington, and the architects and consultants.<sup>23</sup>

### WASHINGTON AQUEDUCT

Water projects formed much of the Washington Engineer District’s peacetime post-World War II work. Along with improvement and expansion of the Aqueduct, the engineers devoted considerable effort to studying and planning the development of the Potomac River water supply. Population growth and an expanded service area created greater demands on the Washington Aqueduct. Congress authorized the Aqueduct to supply water to Arlington County, Virginia, in 1926, and to Falls Church, Virginia, in 1947. World War I, the Depression, World War II, peacetime prosperity, and the Cold War all increased the population of the national capital region. In 1930 the Washington metropolitan area held six hundred seventy thousand people; by 1960 more than two million; by 1970 almost three million. Consequently, the Washington area demanded 103 million gallons of water



per day in 1940, and 126 million gallons in 1950. Demand steadily climbed until the metropolitan area average topped 400 million gallons a day in the mid-1970s.<sup>24</sup>

To address the pressure on the Aqueduct, Congress, for the fourth time in thirty-five years, requested that the Corps of Engineers study the future of the district water supply in 1940 and 1941. The resulting report, submitted to Congress in February 1946, outlined a broad program for expanding and improving the collection, purification, pumping, storage, and distribution facilities of the water system to meet projected population needs for the next half century.<sup>25</sup>

The Washington Aqueduct Division began the next year to improve its reservoirs, filters, mains, and pumping stations, while the District of Columbia upgraded some of the pipelines and pumping stations in its water distribution system. Significant among these improvements was the completion in 1959 of a 450 million-gallon-per-day raw water pumping station at Little Falls. Complete with a new diversion dam at the falls and a tunnel to the receiving reservoir at Dalecarlia, this project represented a major addition to the 200 million gallons of capacity available at the Great Falls intake works. Equally important, it provided a backup conduit in the event of repairs or damage to the two existing conduits.<sup>26</sup>

Washington's waste water treatment plant at Blue Plains, which in 1950 allowed 80 percent of the pollutant load to enter the Potomac, was expanded from a capacity of 130 to 240 million gallons a day during the next decade. In 1960 Engineer Commissioner Brigadier General Alvin C. Welling reported in a newspaper editorial that neighboring jurisdictions had constructed sewers and mains to carry their wastewater to the expanded Blue Plains facility, resulting in an almost two-thirds reduction of organic pollution loads discharged into the river.<sup>27</sup>

Also of note, Washington became one of the first cities in the nation to fluoridate its water supply, beginning in June 1951. Engineer Commissioner Brigadier General Bernard L. Robinson decided in favor of fluoridation based on the Surgeon General's endorsement of its safety.<sup>28</sup>

Between 1960 and 1964 the Corps built new filter and chemical buildings at the Dalecarlia Reservoir that increased its filtration and treatment capacity. From 1967 to 1970 the engineers constructed a single unobtrusive replacement intake structure for both conduits at Great Falls. Aqueduct personnel could monitor the new intake structure from the control room at the Dalecarlia Pumping Station and thus reduce 24-hour surveillance.<sup>29</sup>

The Aqueduct Division, responding to concerns in the late 1960s that drought conditions might result in insufficient water flowing to the Great Falls and Little Falls intakes,

designed the Emergency Estuary Pumping Station on the Potomac just above Chain Bridge. As the station was located within the C&O Canal National Park, public and National Park Service pressure led the engineers to create a low-lying design surrounded by local stone that blended into the landscape. The station was completed 1979 and never used. It was abandoned in 1985 when other water supply solutions made it unnecessary.

Broad environmental concerns in the 1990s led to the Corps' participation in a task force of federal agencies that undertook a feasibility study of creating a fishway at Little Falls to repopulate the Potomac River with many species of fish. This project was part of the Washington Aqueduct's wider efforts to clean up hazardous wastes and debris in the river and along its shoreline. The Aqueduct's recently completed, underway, or proposed projects totaling \$75 million in 2000 focused on updating physical plants, improving water quality, and following EPA guidelines to reduce the quantity of disinfection by-products.<sup>30</sup>

In 1991 the 1913 fountain dedicated to Senator James McMillan (who had proposed the reservoir) was returned to the McMillan Reservoir grounds near its original hilltop setting, which had been obliterated during the site's expansion and the fountain's removal in 1941. Improvements to the filtration plant at the reservoir, first suggested in 1946, began in 1982. The deteriorating slow sand filters from 1905 were abandoned upon completion three years later of a new filter and chemical building containing twelve new rapid-sand filters. During the 1990s water quality concerns continued to plague the Aqueduct and its reservoirs. The Environmental Protection Agency (EPA) called for an independent study in 1993 after bacterial contamination was found during routine testing of the district government's water distribution system. Two years later Virginia activists urged lawmakers to turn control of the entire system over to the Fairfax County Water Authority, a suggestion that was seconded by Assistant Secretary of the Army John Zirschky in 1996. Some officials suggested that a new federal agency run the Aqueduct. In 2001 Virginia Senators John Warner and George Allen urged congressional hearings on the discharge of sediment into the Potomac River from the Dalecarlia Reservoir, wishing to prohibit it during the spawning season. In December 2002 the EPA was pushing to



*Beginning in 1982 the construction of new rapid sand filters at the McMillan reservoir, just east of Howard University, obviated the need for the slow sand filters built in 1905. The sand storage "silos" (extreme lower left) remained standing in 2004 as remnants of the earlier technology.*

*Washington Aqueduct Division, Baltimore Engineer District*

reduce the concentration of sediment unleashed into the river by 90 percent. Although the Aqueduct experienced continuing pressure to improve its services, it remained in 2004 a part of the Baltimore District of the Corps of Engineers.<sup>31</sup>

#### **POTOMAC AND ANACOSTIA RIVER BASIN PLANNING AND MAINTENANCE**

The Aqueduct report of 1946 did not address the development of future water resources on the Potomac. The Corps began studying this thorny topic—which involved questions of water supply and quality, flood control, pollution control, and recreation—at the request of Congress in 1956, releasing its report in February 1963. During this long preparation time, the Baltimore Engineer District in 1961 assumed the duties of the Washington District, which was abolished, including its responsibility for studying the Potomac. An adequate supply of water to the Washington vicinity and clean water were the two main issues faced by the Corps' engineers. Although the Potomac's average flow was in the billions of gallons, it could and did fall during summer months to less than half a billion gallons a day. (On September 10, 1966, the flow fell to a record low of 388 million gallons.) In 1957 the U.S. Public Health Service declared the river unsafe for swimming. Consequently, the engineers' report made certain recommendations concerning land management and conservation, and it suggested wastewater treatment goals that extended to the year 2010. At its core was a proposed massive system of impoundments throughout the Potomac River basin, including sixteen major reservoirs and 418 smaller headwater reservoirs, estimated to cost \$500 million.<sup>32</sup>

The storage capacity gained by this system would have assured an adequate supply of water even in times of severe drought. Furthermore, it was designed to provide a sufficient flow of water beyond the Washington Aqueduct's intakes in order to flush pollutants downstream and into the Chesapeake Bay. The report sought immediate authorization to build eight of the major proposed projects. As early as 1957, when aspects of its general approach became known, the Corps' proposal was widely criticized. Residents of four states and the District of Columbia objected to the condemnation of large amounts of upriver real estate to serve the needs of downriver Washington and to the flooding of sizable areas of the basin. Responses to the plan also noted that it did not seek to prevent "present or future pollution from being dumped into the waterways of the Potomac...on the thesis that this is unpreventable and will become progressively worse."<sup>33</sup>

The Seneca Project, a dam and reservoir slated for the main stem of the Potomac, was one of the most controversial parts of the proposal. Had the largest of the potential impoundments been built, its creation would have displaced about 460 families and flooded out twenty-nine miles of the C & O canal—16 percent of the canal’s length—including the Monocacy Aqueduct. In his 1965 State of the Union address, President Lyndon Johnson declared: “We hope to make the Potomac a model of beauty here in the Capital.” To this end, he sent the Corps’ report to the Secretary of the Interior for review. A specially created Federal Interdepartmental Task Force on the Potomac worked with Chief of Engineers Lieutenant General William F. Cassidy to scale back the Corps’ plan for the Potomac to six major reservoirs. None of these were funded and the Corps built only one major impoundment as part of this long effort. The Bloomington Lake Project, authorized by the Flood Control Act of 1962, went into service in 1981. Severe flooding in 1985 cost twenty lives and \$300 million in damages in Virginia and West Virginia, but the Bloomington Dam “absorbed

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*“We hope to make the  
Potomac a model of beauty  
here in the Capital.”*

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*Construction of the concrete  
abutments for the tainter  
gates at the spillway of the  
Bloomington Dam on the  
Maryland-West Virginia border,  
(n.d.). The resulting reservoir  
was later renamed William  
Jennings Randolph Lake.  
Baltimore Engineer District*







*After delays caused by the Depression and World War II, in 1948 the Corps resumed work on improvements to the Washington Channel, including construction of Pier No. 4, seen here in May 1950, before turning over responsibility for the channel to the district government in 1951.*

*Office of History, Corps of Engineers*

the flood and protected the residents along the North Branch. Bloomington was the right dam at the right place. It prevented approximately \$113 million in flood damages.”<sup>34</sup>

One outgrowth of the contested planning for Potomac water development was a provision in the 1974 Water Resources Development Act. Congress mandated the construction of what became the Experimental Estuary Water Treatment Plant, the result of the Corps’ study into the feasibility of treating water from the Potomac estuary in cooperation with the Environmental Protection Agency. Constructed at Blue Plains by the Corps’ Aqueduct Division in 1980, the \$10 million facility tested a variety of chemical and mechanical processes. The 1983 final report from the studies conducted at the plant concluded that the estuary water could be made potable, but at an unreasonable cost. But pollution was reduced at Blue Plains by the construction of eight new settling tanks in the 1980s that employed nitrification to process waste water, making Blue Plains one of the nation’s few state-of-the-art facilities and the largest such plant in the world. The EPA’s resident engineer Arthur H. Smit was able to say in 1988: “The Potomac River is much cleaner now than it was 10 to 15 years ago because of this plant.”<sup>35</sup>



Despite valid pollution concerns and the Corps' mitigation efforts, the Potomac is certainly not a lifeless river. Water chestnut (*trapa natans*) spread wildly on a forty-eight-mile stretch of the Potomac after first being detected in 1919, interfering with commercial navigation and recreational boating. The year 1939 marked the Corps' first effort to remove aquatic weeds from the Potomac with mechanical cutters. Annual cuttings continued through 1977, when the vegetation subsided. It was at that time that the National Park Service mistakenly introduced *hydrilla verticillata* into the Reflecting Pool as part of an experiment to reduce green algae. Hydrilla's escape and spread first came to public notice in 1982, after it had already choked waterways in California and Florida. Naturalists, however, viewed the return of vegetation to the Potomac as an "indicator of the health" of the river.<sup>36</sup>

*In 1942 the Corps used mechanical cutters on boats, developed and constructed by the Washington Engineer District, to attempt to rid the Potomac and its tributaries of their infestation of water chestnuts.*  
National Archives no. 77-RH-141A-3



**THE CORPS OF ENGINEERS' RIVER CREW BASED AT A SMALL BOAT DOCK UNDER THE 11TH STREET BRIDGE ON THE ANACOSTIA RIVER NORMALLY SPENT ITS DAYS CLEARING DEBRIS AND OTHER NAVIGATION HAZARDS FROM THE AREA'S RIVERS. THEIR ROUTINE CHANGED ON JANUARY 13, 1982, WHEN AIR FLORIDA FLIGHT 90 CRASHED AFTER TAKEOFF FROM NATIONAL AIRPORT, STRUCK THE 14TH STREET BRIDGE, AND PLUNGED INTO THE POTOMAC. ALTHOUGH THE FROZEN RIVER PREVENTED THE CORPS' BOATS FROM IMMEDIATELY REACHING THE SCENE TO AID IN RESCUE OPERATIONS, ONCE THE ICE HAD BEEN BROKEN THE CREW SPENT THIRTEEN DAYS RETRIEVING WRECKAGE AND BODIES FROM THE RIVER. THE CRASH KILLED SEVENTY-FOUR AIRLINE PASSENGERS AND CREW AND FOUR MOTORISTS ON THE BRIDGE.**

In 1982 hydrilla covered ten acres of the Potomac but within four years had expanded to a three- to four-thousand-acre range, which it maintained through 1989. In 1984 Maryland and Virginia asked the Corps to study the infestation and recommend a solution. The Baltimore District focused its investigation on the herbicide Diquat and mechanical harvesting, both of which had effectively controlled hydrilla on other waters. They eliminated Diquat because both states objected on environmental grounds, and because the herbicide was no more cost effective than the mechanical alternative. In early 1986 the Baltimore District decided mechanical harvesting was preferable to keep channels to marinas open. Boating interests urged complete elimination of hydrilla, but limited control made the most economic and environmental sense.<sup>37</sup>

Congressional approval for resumption of reclamation and development work on key parts of the Anacostia River's 158-square-mile basin came in 1955, when Congress authorized a Corps study. The unfinished work on 900 acres of water and land included dredging Kingman Lake and East Lake, dredging the river channel to Bladensburg, building seawalls, filling in low-lying areas with dredged material, and installing tidal gates. The Washington Engineer District noted that additional silting and deterioration of partially completed work would add to the original cost. Flood control work on the Anacostia, including channel improvements, levees, conduits, pumping stations, and a boat basin, was completed in 1959 and turned over to the Washington Suburban Sanitary Commission for operation. The engineer district retained responsibility for maintenance dredging. Years of piecemeal and sporadic improvement efforts did little to counteract the lower Anacostia's severe pollution.<sup>38</sup>

The Baltimore District of the Corps released its *Anacostia River Basin Reconnaissance Study* at the end of 1990, a study that was stimulated in part by citizen activism. It set forth a basin-wide plan to restore 600 acres of fish and wildlife habitat lost in previous Corps flood control works. The plan included wetland restoration, planting of trees and shrubs, removal of barriers to seasonal fish movements, and channel modifications to create riffles and pools for fish. The reconnaissance study concluded that the federal government had an interest in pursuing a detailed feasibility study leading to a federal project costing an estimated \$46 million.<sup>39</sup>

Restoring the Anacostia got underway in 1991, an effort requiring multiple local government agencies, and for the Corps, environmental engineering, a relatively new area of expertise. The Corps and Coast Guard used skimming techniques and vacuum suction to clean up a mile-long oil spill near the Navy Yard in 1992 that ran from shore



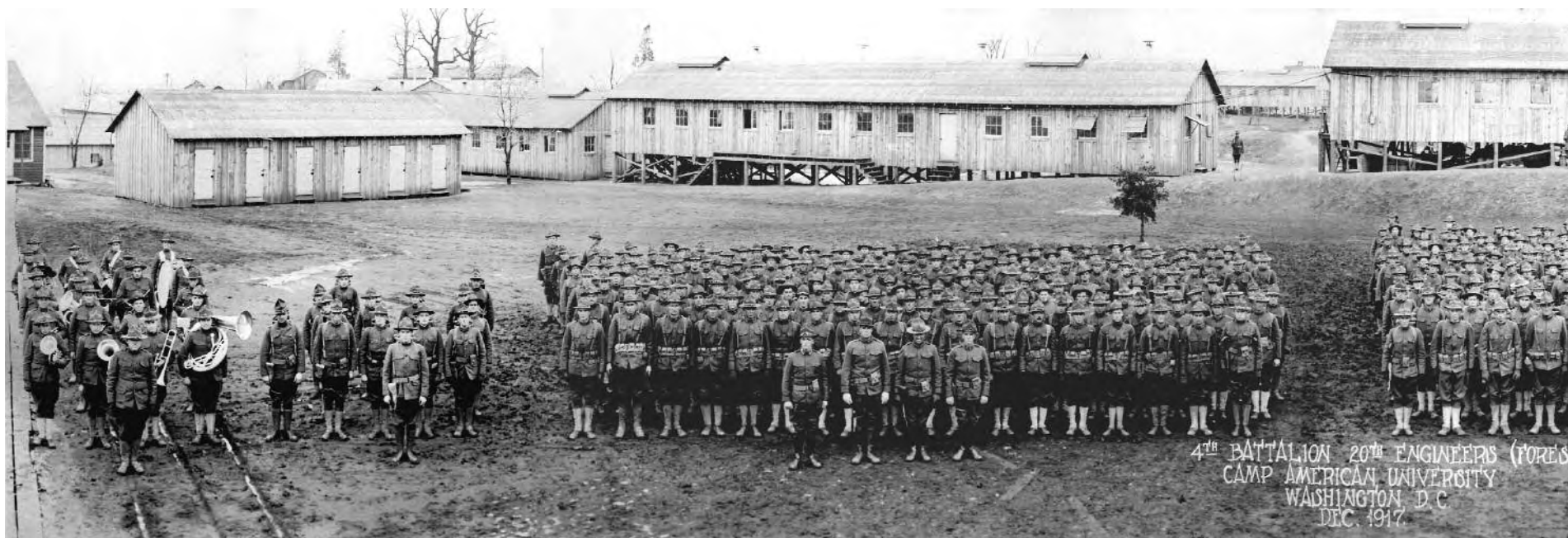
*In the 1990s, in part stimulated by citizen activism, the Corps began restoring wetlands and wildlife habitats on Kingman Lake in the Anacostia River that were lost due to earlier twentieth-century reclamation efforts by the Corps.*

*Baltimore Engineer District*

*The 4th Battalion of the 20th Engineers (Forestry) posed for the camera in December 1917 at Camp American University. Beginning in 1917 the Army used land near the post as a weapons range, a training ground for defense against toxic gas attacks, and a testing area for its own military gases. The land is now part of the upscale residential neighborhood of Spring Valley in northwest Washington.*

*Office of History, Corps of Engineers*

to shore. This accident hampered work on restoring the Kenilworth marsh, a key component in restoring the lower Anacostia's viability as a river. Corps engineers built up the marsh using material dredged from the main channel, which was contained by straw bales. The \$2 million project restored thirty-two acres of wetlands destined to become a natural habitat for waterfowl and a feeding ground for fish. Stream-bank planting of trees and protection by placing riprap along muddy banks of the Anacostia and its tributaries followed in the mid 1990s. In 1996 President Bill Clinton designated the Anacostia one of the ten ecosystems nationwide to receive priority attention; in 1995 the National Capital Planning Commission's Legacy Plan earmarked both sides of the Anacostia's shores from its mouth to the National Arboretum as one of Washington's major future recreation areas. In the twenty-first century the Corps had joined local governments and private organizations in rallying citizen commitment to restoring the Anacostia as





the key to the revitalization of its adjacent neighborhoods. By 2002 the Corps had thirteen environmental restoration projects along the Anacostia River's watershed. A major strategy was to repopulate the wetlands with native plants. During the summer of 2002 the Corps collaborated with the National Park Service on Lake Kingman, which abuts the east end of Capitol Hill.<sup>40</sup>

#### MUNITIONS CLEANUP AT SPRING VALLEY AND CAMP SIMMS

In the last decades of the twentieth century several problems with government and city sites, as well as structures particularly associated with the military, involved the Corps and its Baltimore District once again in a diverse mixture of building projects. In 1993 the routine laying of sewer pipes uncovered buried chemical munitions containers dating from World War I in Northwest Washington's Spring Valley neighborhood located between the American University campus and the Dalecarlia Reservoir. Between 1917 and 1920 the American University Experiment Station, a chemical warfare research center and experiment station located at American University, used 661 acres of the sparsely settled neighborhood for testing ranges. The soldiers dug trenches modeled from those on the Western Front—where allied forces from 1915 on were subject to attacks by toxic chlorine (and later thirty other types of gas)—to replicate chemical weapons attacks and test protective clothing and equipment. More importantly, the Army began developing many kinds of noxious gases on the site and carried out many experiments, including chemical munitions explosions, in conditions now known to be unsafe. Such work was halted on







(Top)  
The Baltimore Engineer District was hampered in its efforts to remediate arsenic-contaminated soil in Spring Valley by the large number of homes in the neighborhood. Arsenic is a breakdown product of a chemical warfare agent tested there during World War I.

Baltimore Engineer District

(Bottom)  
In September 1994 the Corps of Engineers erected a vapor containment structure over a large metal anomaly detected in the ground. Excavation revealed the anomaly to be a buried metal gate.

Baltimore Engineer District

December 31, 1918, but significant amounts of high explosives and containers of chemicals were left behind and buried.<sup>41</sup>

In 1993 Operation Safe Removal, the collaboration of the District's Office of Emergency Preparedness, the Army's Service Response Force, the EPA, and the Corps, began investigating the initial area. Test trenches and electromagnetic surveys on 492 properties revealed two possible burial pits. During the ensuing years, evidence of contamination over a broader area has surfaced raising particular concerns about high illness and death rates among the neighborhood's population and arsenic that had leached into the soil at a day care center. These serious concerns led to 1,602 properties being slated for soil sample or subsurface investigation by 2003. The area's difficult rolling landscape, coupled with the amount of land covered by structures, contributed to the complex problem facing the Corps, which took the lead in the investigations. During the early 2000s removal of actual artifacts was accompanied by soil removal and replacement. In 2003–04 a local newspaper, the *Northwest Current*, coordinated a survey of the health of Spring Valley's residents, reporting its

findings in a twelve-page supplement to the November 10, 2004 issue. The *Current* compiled a map of Spring Valley that outlined the Army's 1918 central testing area within the entire original defense site boundary. The survey identified lots where the Corps found high concentrations of arsenic and households "where significant diseases were reported to the *Current* in a yearlong health survey."<sup>42</sup>

In 1994 while the Metro was doing preliminary work on its Green Line subway in Southeast, six mortar rounds were discovered on what had been part of Camp Simms, a 169-acre fort used by the District of Columbia National Guard for a small arms target range. Between 1995 and 1997 the Corps detonated or safely removed forty-seven ordnance items from the site before testing the soil and ground water for lead and other

heavy metals. During 2000 and 2002 the Corps' ordnance specialists investigated another site slated for commercial and residential development that also had been part of Camp Simms and removed various magnetic and construction elements although no hazardous materials were found.<sup>43</sup>

#### **DISTRICT OF COLUMBIA PUBLIC SCHOOLS**

In April 1998 the Corps offered its services to the District of Columbia government to renovate and modernize 147 public schools. Structural repairs as extensive as new roofs (33 in 1998), removal of asbestos, and extensive window replacement were begun immediately with \$76 million of the school system's funds. Removal of approximately 200 underground storage tanks was a preliminary step to replacing antiquated heating systems with natural gas furnaces and air conditioning systems. Much of the major work had to be carried out while the schools were not in session and beginning in 1998 the Corps repeatedly met their goal of opening the schools on time each September. Federal standards of construction and procurement resulted in dramatically improved facilities throughout the city. By the fall of 2000 some improvements had been carried out in every school. Once the safety and security of the 68,000 students attending the existing schools was accomplished, the Corps began oversight of the design and construction of eight new schools, with construction of Key Elementary School beginning in 2000 and completed in 2002. In November 2001 the Corps broke ground for Miner Elementary



*Chief of Engineers Lt. Gen. Joe N. Ballard and the District of Columbia Superintendent of Schools, Dr. Arlene Ackerman, discussed the Corps' role in the rehabilitation of Washington's schools, October 1998.*  
*Office of History, Corps of Engineers*

*Following completion of a new building for Barnard Elementary School on 4th Street, NW, between Crittenden and Decatur Streets, the 1926 structure was demolished to make room for playgrounds.*

*Baltimore Engineer District*



*The Corps has made extensive repairs and built additions to the Thomson Elementary School in downtown Washington at 12th and L Streets, NW, which was scheduled to reopen for the 2005–06 school year.*

*Photograph by Darren Santos*



School designed by Grimm and Parker, Architects, of Alexandria, Virginia. By 2003 the Corps managed more than \$300 million in the projected \$1 billion capital improvements related to the district's schools. The D.C. Board of Education hoped to renovate or replace all the city's schools by 2015.<sup>44</sup>

### KOREAN WAR MEMORIAL

The Korean War Veterans Memorial was authorized in October 1986 to honor those Americans who had joined the armed forces and civilian personnel from twenty-two countries that served under the United Nations' mandate from 1950 to 1953. In 1989 four faculty members at Pennsylvania State University won the design competition that featured thirty-eight realistic statues of marching soldiers; veterans in interviews repeatedly had recalled memories of walking all over South Korea. "The number 38 was selected because it was the basic battle unit of the war, about the size of a single platoon. The war lasted 38 months. It took 38 years for our country to commemorate the war from its beginning in 1950 to the memorial's conception. The 38th parallel now divides the two Koreas, who signed an armistice there July 27, 1953, at the village of Panmunjom." The memorial was located on a seven and one-half-acre site at the west end of the Mall on the south side of the Reflecting Pool, opposite the Vietnam Veterans Memorial. Moreover, the architects of record of both memorials, Washington's Cooper Lecky Architects, modified the winning design of the Korean War Memorial by adopting a polished black granite wall as one of its major elements, the idea borrowed from the Vietnam Veterans Memorial.<sup>45</sup>

Working for the American Battle Monuments Commission, the Baltimore Engineer District managed construction of the Korean War Memorial, consisting of the 164-foot

*The Corps of Engineers managed the construction of the Korean War Veterans Memorial for the American Battle Monuments Commission. By April 1995 most of Frank Gaylord's stainless steel statues were in place and the memorial was dedicated only three months later.*

*Office of History, Corps of Engineers*



*Beginning in December 1941 the Corps assumed responsibility for construction at the Walter Reed Army Medical Center in northwest Washington. In August 1994 Daria Hasselman, Project Engineer, and Debbi LoCicero, of the Medical Facilities Office of the Baltimore Engineer District, visited the site of a clinic under construction.*

*Office of History, Corps of Engineers*



mural wall etched with nearly 2,400 digitized photographs of actual participants in the war's broad-ranging efforts, nineteen stainless steel statues (the number reduced during the review process by federal planning agencies) by Frank Gaylord, walkways with curbs inscribed with the names of the participating countries, and a memorial pool of remembrance.

Construction for the \$16.5 million memorial began in 1993, its dedication taking place on July 27, 1995, the forty-second anniversary of the armistice. Two years later the pool had to be rebuilt and part of a memorial grove of trees replanted, the work done under the Corps' aegis and completed in 1999; the National Park Service claimed poor original construction by the Corps' contractors and the Corps claimed poor maintenance by the Park Service.<sup>46</sup>

## THE PENTAGON

In 1989 the Baltimore District began an anticipated ten-year, \$600 million project to renovate the Pentagon and the following year Anthony Leketa was named as the program manager. In August 1991 Leketa described his team's task as creating a modern work environment by replacing the entire heating and refrigerating plant as well as all mechanical and electrical systems; consolidating all the building's light industrial functions; replacing all windows for better environmental control; and renovating the entire interior by opening up and connecting offices for ease of communication. This massive undertaking would be done in stages, with each of the five sides vacated and the work completed before moving on to an adjacent side, a logistical problem for a building occupied by 25,000 members

and employees of the five armed services. By 1991 the price tag for the Pentagon's rehabilitation had escalated to \$1.4 billion and would continue to grow as was often the case with large and complex renovation projects. Even after work moved inside in 1995, the daily operations of the Pentagon's workforce continued uninterrupted.

In the summer of 2000 the Defense Department transferred management of the Pentagon renovation project to the Washington Headquarters Services (WHS), a Defense Department agency responsible for operating the building among other things. By that time, the Baltimore District had constructed a new Heating and Refrigeration Plant south of the building, begun an extensive renovation of the basement, started two new pedestrian bridges to improve access to the building and a Remote Delivery Facility where trucks would unload and their cargo allowing them to be processed away from the main building, and made substantial progress on renovation of the first of five segments or "wedges." In the process of the renovation, the Corps recommended increased protection against blast for not only the exterior windows but for the walls as well. This increased blast resistance proved its worth on September 11, 2001, when terrorists crashed American Airlines Flight 77 into the Pentagon near the intersection of renovated and old segments of the building. The WHS director of the renovation commented that without the increased blast resistance, "this could have been much, much worse."<sup>47</sup>

In November 2001 the Corps was charged with selecting the site and conducting the design competition for the Pentagon Memorial to commemorate those who lost their lives when terrorists attacked the building. From the outset, the families of the 184 victims (fifty-nine of whom were in the plane) played a key role on a team that included several federal agencies in choosing both the site and the design. Carol Anderson-Austra acted as the Corps project manager. The Corps established eleven criteria to evaluate ten sites in close proximity to the Pentagon with family acceptability, nearness to the impact area, and public accessibility leading the list. In April 2002 the team's choice of a 1.93-acre site 165 feet west of the Pentagon's west face under the plane's flight path was approved. The open, two-stage design competition was conducted between May 2002 and March 2003, six finalists chosen from 1,126 entries. The winning design by New York architects Julie Beckman and Keith Kaseman, announced on March 3, 2003, called for 184 cantilevered benches lit internally and arranged in a landscaped park, each personalized according to the age of the victim and whether they were on the plane or in the Pentagon itself.<sup>48</sup>



*Immediately following the terrorist attacks on September 11, 2001, the Corps of Engineers responded by deploying personnel to New York City and to the Pentagon to perform rescue operations, debris removal, structural integrity analyses, and structural stabilization. The Engineer Company of the Military District of Washington, a unit based at Fort Belvoir, Virginia, and specially trained in search and rescue missions, arrived at the Pentagon within hours of the attack and later displayed the Corps flag at the site. In the months to follow the Corps would also select the site for a Pentagon Memorial and coordinate its design competition.*  
Corps of Engineers

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*"[T]his could have been much, much worse."*

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*“...outstanding teamwork in  
the areas of communication,  
customer care, flexibility,  
innovation, and  
responsiveness.”*

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The successful completion of the competition ended the Corps’ involvement but during the two-year process the Baltimore District’s Pentagon Memorial team won two awards. The first was the *2002 Baltimore District Team Honors Award* for “outstanding teamwork in the areas of communication, customer care, flexibility, innovation, and responsiveness,” the second the *2003 U.S. Army Corps of Engineers Project Delivery Team Honor Award* for “an extraordinary job well done” on a project that was “unique in the emotion, teamwork, commitment, and coordination required.” The Corps’ continuing contributions to Washington’s development builds on nearly two centuries of an honorable commitment to public service.<sup>49</sup>

#### SUMMATION

It is more than two centuries since Army Engineer Peter Charles L’Enfant designed the federal city, yet Corps of Engineers officers continue to contribute their expertise to the betterment of Washington. The length of their commitment is matched by the diversity of the Corps’ involvement. Design and construction of Washington’s fortifications and bridges and management of its rivers’ navigation repeated the Corps’ traditional roles being carried on simultaneously in other parts of the country. Washington’s unique position as the federal capital involved the Corps in two major aspects of the city’s development for a century beginning in the 1860s: construction oversight of the nation’s most important monuments, memorials, and public buildings as Officers in Charge of the Office of Public Buildings and Grounds and management of its municipal affairs as Engineer Commissioners. This crucial century saw Washington evolve from a loose conglomeration of widely dispersed neighborhoods to a coherent national capital, center of international power, and genuine community; the Corps of Engineers played no little role in this transformation.